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## Division of Behavioral Health Services

# Project: Psychotropic Medication Poly-Pharmacy

# Performance Improvement Project (PIP)


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## I. EXECUTIVE SUMMARY

The Arizona Department of Health Services, Division of Behavioral Health Services (ADHS/DBHS) participates in the Quality Improvement System for Managed Care (QISMC) project as provided by the federal Balanced Budget Act (BBA) of 1997, mandating the U.S. Center for Medicaid and Medicare Services (CMS) to establish and conduct Performance Improvement Projects (PIPs).

ADHS/DBHS determined that this PIP would involve a statewide project to improve the appropriate use of poly-pharmacy. This project was initiated in January 2005, with the formation of a workgroup comprised of Regional Behavioral Health Authority (RBHA) Medical Directors, and led by the ADHS Chief Medical Officer.

The workgroup utilized a standard format to help structure the PIP process. This design provides a structure for a comprehensive model of performance improvement. The format utilized is the I-M-P-R-O-V-E / P-D-C-A:

- **I**dentify the Area for Improvement
- **M**ake a Team
- **P**rioritize Possible Causes
- **R**esearch Possible Solutions
- **O**rganize and Implement a Plan of Action
- **V**alidate Effectiveness of Actions Taken
- **E**xecute and Standardize the Action Plan

- **P**lan
- **D**o
- **C**heck
- **A**ct

Workgroup accomplishments to date include: development and dissemination of Technical Assistance Document 9, (TAD), "Poly-pharmacy Use: Assessment and Appropriateness and Importance of Documentation" in May 2006; examination of interventions and performance indicators; identification of potential barriers; design of data collection methodology; and the establishment of baseline data for both adult and child populations based on the results of the 2003 Independent Case Review (ICR).

During Year 2, the project workgroup proceeded with implementation of the recommended Technical Assistance Document that guides prescribers on the appropriate use of poly-pharmacy and the required documentation for justifying the use of poly-pharmacy and measured performance again through the ICR in 2005. One strength noted in the ICR report related to documentation of rationale and justification when poly-pharmacy regimens were utilized, which resulted in an increase in the performance measures.

Year 3 of the project saw an improvement from 31.1% to 33.3% in performance in adult cases reviewed for members prescribed 3 or more intra-class psychotropic medications. Similarly, performance improved from 2.0% to 57.8% for adult records reviewed indicating the use of 4 or more inter-class psychotropic medications. For the children's records

reviewed for prescription of 4 or more inter-class medications there was marked improvement of 47.3% as compared to the baseline year. Please see Tables 1 and 2 for the sample sizes and percentages of compliance with poly-pharmacy documentation for each measure of performance on this standard.

With the discontinuation of the ICR process, the workgroup has identified an alternative methodology to assess sustained improvement in 2007. This will include conducting a special study to review records of individuals receiving poly-pharmacy to determine compliance with the required documentation.

The following report details aspects of the project as well as the proposed timeline for future improvement activities.

## II. INTRODUCTION

Pharmacological therapy has become an integral part of the treatment provided to individuals with behavioral health disorders. In the past decade, many new medications have entered the market with promises of increased efficacy, fewer side effects, improved tolerability and potential for improved adherence to prescribed treatment. These medications, while offering an increase in choice and potentially providing individuals with the opportunity to have an improved quality of life, are not always prescribed to achieve the maximum benefit. Research has shown that prescribing multiple (more than one) medications does not always increase the efficacy and may increase the risk to the individual, in addition to driving up costs for the system. [1]

States such as Massachusetts and Missouri have attempted to reduce the number of Medicaid members receiving multiple psychiatric medications by identifying prescribing clinicians who consistently prescribe multiple medications and providing education regarding best practices. Missouri reports that educational efforts have resulted in cost savings as well as improvements in the quality of prescribing patterns. [2] In Massachusetts, educational efforts in combination with prior authorization processes, resulted in a significant decrease in the number of members receiving multiple medications and a subsequent cost reduction. [3]

Data from the ADHS 2003 ICR shows that, for members who are prescribed 3 or more intra-class psychotropic medications, in 31.1% of the adult cases and 25.0% of children's cases, rationale for combined use was present in the medical record. The same study reports that, for members receiving 4 or more inter-class psychotropic medications, rationale for combined use was present in 2.0% of the adult cases and 3.0% of the children's cases reviewed. In order to ensure safe and effective treatment of members receiving psychotropic medications, the ADHS/DBHS has determined that this is an area in need of improvement.

### POLY-PHARMACY DEFINITION

Inappropriate poly-pharmacy is defined by the Arizona Department of Health Services/Division of Behavioral Health Services (ADHS/DBHS) as the use of more than two

[1] Steven F. Werder: Managing Polypharmacy: Walking the Fine Line Between Help and Harm: Current Psychiatry, February, 2003.
[2] Kate Mulligan: Medicaid Patients Benefit from Best-Practice Education Project: *Psychiatric News*, November 2003.
[3] Kate Mulligan: DB Partners with State to Develop Drug Formulary: *Psychiatric News*, May, 2003.

psychotropic medications within the same class at the same time, other than for cross-tapering purposes without specific rationale; and, the use of more than three psychotropic

medications from different classes at the same time, without a specific rationale for the combination of medications utilized in the overall treatment of behavioral health disorders.

The ICR standards define poly-pharmacy as 3 or more intra-class or 4 or more inter-class psychotropic medications prescribed simultaneously. This definition is consistent with ADHS/DBHS definition for the terms of this study as more than 2 intra-class medications equals "3 or more" in ICR terms and more than 3 inter-class medications equals "4 or more" in ICR terms.

### PROJECT GOAL

To promote the use of rational poly-pharmacy while reducing unnecessary and inappropriate poly-pharmacy.

### STUDY QUESTION

Will educational efforts targeted toward prescribing clinicians result in an increase in the appropriate use of poly-pharmacy as measured by the number of medical records that contain rationale for its use?

## III. BUILDING AN IMPROVEMENT PLAN

In keeping with the purpose of this project, a comprehensive model of performance improvement has been adopted. This model incorporates the performance improvement process (I-M-P-R-O-V-E) along with the Plan-Do-Check-Act (PDCA) cycle.

### POSSIBLE CAUSES/BARRIERS

As stated by the I-M-P-R-O-V-E process and the PDCA cycle, the workgroup has identified the following causes/barriers (step **'P'**) to documenting rationale for the use of poly-pharmacy:

1. Prescriber shortages and staff turnover lead to prescribers having limited time to document their thinking and rationale for medication choices as clearly as is necessary.
2. Requirements for justification for poly-pharmacy had not been established.
3. Prescribers need additional training on the potential dangers of poly-pharmacy and the expectations for documentation.

### POSSIBLE SOLUTIONS

In keeping with the I-M-P-R-O-V-E process and the PDCA cycle, the Workgroup examined possible solutions (step '**R**') to address the possible barriers which may impact documentation of rationale for the use of poly-pharmacy:

1. Additional training: The workgroup developed and disseminated TAD 9: Polypharmacy Use: Assessment of Appropriateness and Importance of Documentation.
2. Additional oversight:

    a. Several RBHAs developed prior authorization protocols to prompt prescribing clinicians to document the rationale/justification for poly-pharmacy prior to being able to initiate the particular combination.
    b. Several RBHAs implemented prescriber profiling in order to identify prescribers who utilize polypharmacy

## IV. METHODOLOGY

This project monitors the adequate documentation of rationale for the use of poly-pharmacy. The project will determine the rate at which adequate justification is provided for the use of poly-pharmacy.

### MEASUREMENT PERIOD

The study measurement period is annual. During Year One, the baseline was established and the interventions were planned. In Year Two, the interventions were implemented. In Year Three, performance was re-measured to determine if the goal was achieved. In Year Four, performance will be re-measured to determine if improvement has been sustained.

### POPULATION

The study population includes all Title XIX/XXI eligible children and adults who are enrolled in the Arizona behavioral health system and are currently receiving more than three psychotropic medications within the same class, or more than four psychotropic medications from different classes at the same time. The study population was selected after the ICR sample was drawn.

### SAMPLE METHODOLOGY FOR ICR PROCESS

Data for the sample will be extracted from the ADHS CIS Enrollment table. Basic demographic data will be extracted including the client name, date of birth, intake date and behavioral health category. The sampling frame will meet the following criteria:

1. Client is a TXIX/XXI member during the study period.
2. Client received a behavioral health service during the study period other than laboratory/radiology, transportation or crisis services.
3. Client has a 90 day continuous enrollment during the recent months prior to implementation of the case review.

The final criterion indicating that the client was prescribed 3 or more intra-class or 4 or more inter-class psychotropic medications simultaneously was identified from the completed records of the ICR.

The sample was extracted using a random sampling methodology. Based on statewide enrollment numbers, a representative sample that is proportional to the number of children and adults in the study population will be drawn for each GSA. This generated a total GSA

sample size. The sample size assured a minimum error rate of 5 percent and 90 percent confidence level for each GSA.

## SAMPLE METHODOLOGY FOLLOWING DISCONTINUATION OF THE ICR PROCESS

Upon discontinuation of the ICR process, the sample will be drawn using pharmacy claims data in order to identify specific behavioral health recipients that are being prescribed qualifying poly-pharmacy regimens. The RBHAs will identify and submit the sample frame of all adult and children members that are prescribed 3 or more intra-class or 4 or more inter-class psychotropic medications simultaneously.

The sampling frame will meet the following criteria:

1. Client is a TXIX/XXI member during the study period.
2. Client received a behavioral health service during the study period other than laboratory/radiology, transportation or crisis services.
3. Client has a 90 day continuous enrollment during the recent months prior to implementation of the case review.
4. Client is currently being prescribed 3 or more intra-class or 4 or more inter-class psychotropic medications simultaneously.

The sample will be extracted using a random sampling methodology. A representative sample that is proportional to the number of qualifying clients for both children and adults will be drawn for each GSA to generate a total GSA sample size. The sample size will assure a minimum error rate of 5 percent and 90 percent confidence level for each GSA. This sample will provide for a larger sample pool and will decrease the number of non-applicable records, therefore strengthening the interpretation of the data.

## DATA COLLECTION TOOL

Data for Year 1 and Year 3 of the project was collected using the ICR tool. The ICR tool, which is reviewed annually, contains specific items that measure the performance indicators by which the standard for poly-pharmacy was evaluated. Data for Year 4 of the project will utilize the same methodology; however, the collection of the data will involve a larger sample provided by the RBHAs and validated by pharmacy encounter data.

## DATA COLLECTION METHOD

An independent contractor performed chart reviews according to a pre-determined protocol. A pool of behavioral health professionals were chosen from various fields and trained as reviewers to abstract behavioral health records. Abstractors reviewed a sample of behavioral health records, with results calculated to determine inter-rater reliability. Abstractors were evaluated using a reliability rate prior to field abstraction. In addition, a rater-to-standard method of monitoring the reliability and accuracy of the reviewers was conducted on an ongoing basis during the review period. A subset of the ICR sample cases was used in Years 1-3 of this study. For Year 4, the enhanced sampling targeting the total population of poly-pharmacy clients will improve the validity of the results, although the data collection method will remain the same.

## CONFIDENTIALITY PLAN

The protection of confidential information is covered in the ADHS Provider Manual Section 4.1, *'Disclosure of Behavioral Health Information.'* Research and evaluation activities are addressed in sections F.7.g. (4) (b), F.7.g. (4) (c) and F.9.b. (3).

For the ICR, confidentiality for the medical record review was preserved by entering into a confidentiality agreement between ADHS and the independent contractor. Upon completions of the report, the contractor was required to either shred all records of clients, or

return them to ADHS. The Year 4 Medical Record Review will be conducted per this established confidentiality plan.

## PERFORMANCE INDICATORS

The following measures are categorized by the RBHA and stratified by child and adult:

- Number and percent of members whose medical record contains documentation of rationale for use of more than 3 psychotropic medications within the same class for more than a reasonable crossover period (0 days.)

  Numerator: Number of member records that contain rationale for the use of more than 3 psychotropic medications within the same class.

  Denominator: Number of member records that indicate the member is receiving more than 3 psychotropic medications with in the same class for more than a reasonable crossover period (0 days).

  Source: Independent Case Review/ADHS/DBHS focus review
  Goal: Increase 5% per year

- Number and percent of members whose medical records contain rationale for the use of more than 4 psychotropic medications within different classes for more than a reasonable crossover period (0 days).

  Numerator: Number of medical records that contain rationale for the use of more than 4 psychotropic medications within different classes.

  Denominator: Number of medical records that indicate the member is receiving more than 4 psychotropic medications in combination for more than a reasonable crossover period (0 days).

Source: Independent Case Review/ADHS/DBHS Focus Review
Goal: Increase 5% per year.

## BENCHMARKS

Benchmarks for each indicator are as follows:

| | |
|---|---|
| Minimum: | 60% |
| Goal: | 65% |

Benchmark: 70%

## V. BASELINE DATA FINDINGS AND ANALYSIS

### REVIEW OF BASELINE DATA FINDINGS: YEAR ONE (PRE-IMPLEMENTATION ANALYSIS)

Data from the ADHS 2003 ICR provides a baseline of how the system is performing related to adequate documentation in justifying the use of poly-pharmacy. Results show that, for members who are prescribed 3 or more intra-class psychotropic medications, in 31.1% of the adult cases and 25.0% of children's cases, rationale for combined use was present in the medical record. The same study reports that, for members receiving 4 or more inter-class psychotropic medications, rationale for combined use was present in 2.0% of adult cases and 3.0% of children's cases reviewed.

### LIMITATIONS OF THE BASELINE DATA

A limitation of data is that the sample size for these standards was relatively small as only 4.3% of the total sample of adults and 0.7% of the children's sample were prescribed 3 or more intra-class psychotropic medications. Only 1.8% of the total sample of adults and 4.4% of children records reviewed were prescribed 4 or more inter-class psychotropic medications simultaneously for the overall treatment of behavioral health disorders.

### YEAR 3 FINDINGS

**Table 1. Adult and Child Records Containing Rational for Use of Three or More Intra-Class Medications**

| Adults | | Children | |
|---|---|---|---|
| N | % | N | % |
| 480 | 33.3% | 11 | NA |

Data from the ADHS 2006 ICR shows that, for members who are prescribed 3 or more intra-class psychotropic medications, in 33.3% of adult cases, rationale for combined use was present in the medical record. Only 0.2% of children's records indicated use of intra-class poly-pharmacy. The children's sample for this standard yielded non-applicable results due to the sample size. Compared to the baseline findings, Year 3 of the project saw an improvement in performance in adult cases reviewed for members prescribed 3 or more intra-class psychotropic medications, with results moving from 31.1% to 33.3%.

**Table 2. Adult and Child Records Containing Rationale for Use of Four or More Inter-Class Medications**

| Adults | | Children | |
|---|---|---|---|
| N | % | N | % |
| 201 | 57.8% | 23 | 83% |

Compared to the baseline findings, Year 3 of the project yielded an improvement in performance in adult cases reviewed for members prescribed 3 or more intra-class psychotropic medications, with results moving from 31.1% to 33.3%. Similarly, performance for adult records reviewed indicating the use of 4 or more inter-class psychotropic medications saw an improvement, with results moving from 2.0% in the baseline year to 57.8% in Year 3. Although a data comparison for the children's records in which the member was prescribed 3 or more intra-class psychotropic medications is not available, the data for the children's records reviewed for the prescription of 4 or more inter-class

psychotropic medications saw a marked improvement with results moving from 3.0% in the baseline year to 83.3% in Year 3, therefore surpassing the established benchmark of 70%.

#### LIMITATIONS OF YEAR 3 DATA

A limitation of data is the small sample size for these standards. Only 1.2% of the total adult sample and 0.2% of the total children sample were prescribed 3 or more intra-class psychotropic medications and 13.7% of the total adult sample and 4.1% of the total children sample were prescribed 4 or more inter-class psychotropic medications simultaneously for the overall treatment of behavioral health disorders. The children's sample for simultaneous prescriptions of 3 or more intra-class medications yielded non-applicable results due to the sample size. The methodology for Year 4 is intended to eliminate this limitation.

## VI. PROPOSED PLAN OF ACTION

The decrease in performance will be reviewed by the workgroup and the following interventions will be discussed:

1. Retrain on the Technical Assistance Document; determine if revisions are needed;
2. Increase provider profiling to identify providers utilizing poly-pharmacy, alert them to the need to carefully document the justification, and provide educational topics regarding appropriate poly-pharmacy;
3. Ensure prescriber profiling through peer and record reviews for targeted poly-pharmacy educational efforts by the RBHA; and
4. Review of poly-pharmacy data monthly at the Medical Directors meetings to review RBHA results and discuss the interventions instituted to improve performance in this area.

## VII. CONCLUSION

An examination of the data for both adults and children indicates a system – wide need for ongoing performance improvement in documenting the rationale for the use of poly-pharmacy. While improvement was gained in Year 3 of the project, the findings are still below the minimum benchmark of 60% for three of the four sampled areas. This suggests that there is a need for more intensive training and targeting of specific providers and service locations for focused improvement activities.